

REMARKS

Applicant has studied the Office Action dated April 5, 2005 and has made amendments to the claims. Claims 1-20 are pending. Claims 1, 7, 8 and 11 are independent claims. Claims 1-10 have been amended. New claims 11-20 have been added. No new matter has been entered. It is submitted that the application, as amended, is in condition for allowance. Reconsideration and reexamination are respectfully requested.

Amendments to the Specification

Amendments have been made to the specification at page 1 and to the Abstract in order to claim priority to the foreign application and to correct typographical errors and more clearly disclose the invention. No new matter has been added as the amendments have support in the specification and drawings as originally submitted.

Amendments to Claims

Claims 1-10 have been amended to correct typographical errors and more clearly describe the invention. No new matter has been added as the amendments have support in the specification and drawings as originally submitted. The amendments are not related to patentability.

Objections to Specification

The Examiner objected to the specification due to informalities. Specifically, the Examiner objected to the Abstract as containing semicolons and claim image and to the use of the undefined acronym "EFM."

With this paper, the specification has been amended to correct the Abstract and define the acronym "EFM." Applicant respectfully submits that the grounds for the objections have been overcome and respectfully requests that the objection be withdrawn.

Objections to Claims

The Examiner objected to claims 5-7 and 10 due to informalities. Specifically, the Examiner asserted that acronym "RDS" and "RLL" are not defined in the claims. Furthermore,

the Examiner asserted that “the each of” in claim 2 is a typographical error that should be corrected.

With this paper, claims 5-7 and 10 have been amended to define the first occurrence of “RDS” and “RLL.” Furthermore, claim 2 has been amended to delete the word “the.” It is respectfully submitted that the grounds for the objections have been overcome and it is respectfully requested that the objections be withdrawn.

§ 102 Rejections

Claims 1, 3-4 and 8 were rejected under 35 U.S.C. § 102(b) as being anticipated by Schouhamer Immink (“Immink” U.S. Patent No. 5,790,056). This rejection is respectfully traversed.

It is respectfully noted that a proper rejection for anticipation under § 102 requires complete identity of invention. The claimed invention, including each element thereof as recited in the claims, must be disclosed or embodied, either expressly or inherently, in a single reference. Scripps Clinic & Research Found. v. Genentech Inc., 927 F.2d 1565, 1576, 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991); Standard Havens Prods., Inc. v. Gencor Indus., Inc., 953 F.2d 1360, 1369, 21 U.S.P.Q.2d 1321, 1328 (Fed. Cir. 1991).

Independent claims 1 and 8 have been amended to more clearly disclose the invention. In paragraph 5 of the Office action, the Examiner asserts several portions of Immink as disclosing the recited limitations in claims 1 and 8. Applicant respectfully disagrees with the Examiner’s interpretation of Immink.

With regard to “modulation-coding each byte of the input data blocks by using a code conversion table,” the Examiner asserts FIGS. 7 and 8 and the corresponding disclosure at col. 2, ll. 59-60 of Immink. It is respectfully noted that FIGS. 7 and 8 disclose only the “code conversion table” and it is FIG. 6 that discloses that “coding device” of Immink. Col. 6, ll. 49-51. Furthermore, with regard to “allocating a merging bit in a block unit for the modulation-coded input data in the block unit,” the Examiner asserts col. 3, ll. 6-9 of Immink.

It is respectfully noted that FIG. 6 of Immink discloses “a converter 60 for converting $(m+s+1)$ binary input signals to $(n+s+1)$ binary output signals” and “a parallel-to-serial converter 66 which converts code words 4 ... to a serial bit string to be supplied ... to a modulator circuit 68 which converts the bit string to the modulated signal 7.” Col. 6, line 49 to col. 7, line 7. It is

further respectfully noted that Immink discloses “three merging bits being inserted into the code words” and that the “series of code words is converted … to the modulated signal.” Col. 3, ll. 6-17. Moreover, it is respectfully noted that FIG. 6 of Immink discloses that “converter 60” and “converter 66” precede “modulator 68.”

On the other hand, it is respectfully noted that FIG. 2 of the present specification discloses a “Modulation Encoder 202” that precedes “Merging bit Selection 203.” It is respectfully submitted that the disclosure of FIG. 2 is recited in independent claims 1 and 8, which recite allocating the merging bit for modulation-coded input data, or, in other words, that the merging bit is allocated after the input data has been modulation-coded.

It is respectfully submitted that Immink discloses “modulating” a “code word” that already has the “three merging bits” inserted rather than modulation-coding the input data blocks and **then** allocating the “three merging bits” to the “modulation-coded” input data. It is further respectfully submitted that the present invention is patentably distinct from the Immink invention.

It is respectfully asserted that Immink fails to disclose each element of independent claims 1 and 8 and, therefore, the claims are allowable over the cited reference. It is further respectfully asserted that claims 3 and 4, which depend from claim 1, also are allowable over the cited reference.

§ 103 Rejections

Claims 2 and 9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Immink. This rejection is respectfully traversed.

It is respectfully noted that the Federal Circuit has provided that an Examiner must establish a case of prima facie obviousness. Otherwise the rejection is incorrect and must be overturned. As the court recently stated in In re Rijken, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993):

It is further respectfully noted that “In rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a prima facie case of obviousness. Only if that burden is met, does the burden of coming forward with evidence or argument shift to the applicant. ‘A prima facie case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill

in the art.’ If the examiner fails to establish a prima facie case, the rejection is improper and will be overturned.” (citations omitted.)

As previously respectfully asserted, independent claims 1 and 8 are allowable over Immink, which fails to disclose allocating the merging bit for modulation-coded input data. It is respectfully submitted that it would not have been “obvious to a person of ordinary skill in the art” to allocate a merging bit after the input data has been modulation encoded, as recited in independent claims 1 and 8 and, therefore, it is respectfully asserted that independent claims 1 and 8 are allowable over the asserted “ordinary skill in the art.” It is further respectfully asserted that claim 2, which depends from claim 1 and claim 9, which depends from claim 8, also are allowable over the “ordinary skill in the art.”

Claims 5 and 10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Immink in view of Tanaka et al. (“Tanaka” U.S. Patent No. 5,774,078). This rejection is respectfully traversed.

It is respectfully submitted that Tanaka fails to cure the deficiencies of Immink with respect to independent claims 1 and 8. It is respectfully noted that FIG. 1 of Tanaka is similar to FIG. 6 of Immink in that “Data Encoder 102” and Merging Processor 104” **precede** the “NRZI Modulator 107.” It is further respectfully noted that the disclosure of Tanaka is similar to the disclosure of Immink in that Tanaka discloses that the “merging processor 104 connects the code words output from the data encoder 102 with a 1-bit merging bit … to generate a serial code word” and that the “NRZI modulator 107 then reads the code words … [and] applies NRZI modulation.” Col. 7, 11.53-57 and col. 10, 11. 34-37. Therefore, it is respectfully submitted that the teachings of Tanaka are insufficient to overcome the deficiencies of Immink with respect to independent claims 1 and 8.

Therefore, it is respectfully asserted that independent claims 1 and 8 are allowable over the cited references. It is further respectfully asserted that claim 5, which depends from claim 1, and claim 10, which depends from claim 8, also are allowable over the cited references.

Allowable Subject Matter

Applicant graciously acknowledges the Examiner’s indication of allowable subject matter in claims 6 and 10. As previously indicated, independent claim 7 has been amended to overcome the grounds for objection. It is, therefore, respectfully asserted that independent claim 7 is in

condition for allowance. Since Applicant believes independent claim 1 is allowable over the cited references, Applicant believes that claim 6 is also in condition for allowance as a result of its dependency from claim 1. Furthermore, claim 6 has been rewritten in independent form as new independent claim 11 to include the limitations of base claim 1 and intervening claim 5.

New Claims

With this paper, new claims 11-20 have been added. As previously noted, independent claim 11 includes the allowable subject matter indicated by the Examiner in claim 6. Therefore, it is respectfully asserted that claim 11 and claims 12-14, which depend from claim 11, are in condition for allowance. It is further respectfully asserted that claims 15 and 16, which depend from claim 7, and claims 17-20, which depend from claim 8, also are in condition for allowance for the reason given herein with regard to claims 7 and 8.

CONCLUSION

In light of the above remarks, Applicant submits that claims 1-20 of the present application are in condition for allowance. Reexamination and reconsideration of the application, as amended, are requested.

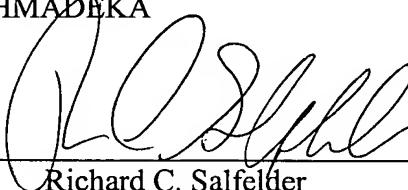
No amendment made was related to the statutory requirements of patentability unless expressly stated herein; and no amendment made was for the purpose of narrowing the scope of any claim, unless Applicant has argued herein that such amendment was made to distinguish over a particular reference or combination of references.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at the Los Angeles, California telephone number (213) 623-2221 to discuss the steps necessary for placing the application in condition for allowance.

Respectfully submitted,

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